IN THE DRAWINGS:

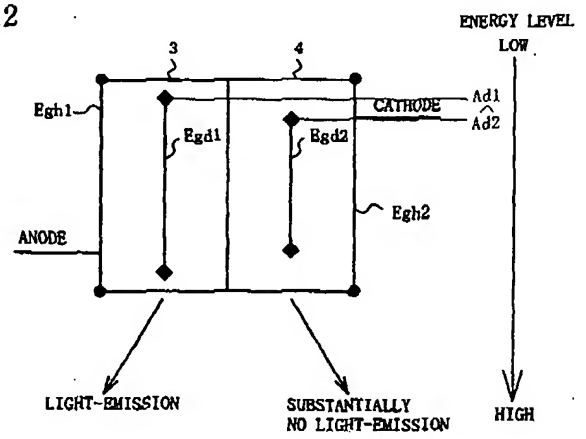
Replacement Figures 3-5 are submitted with this Amendment.

Attachment: 2 sheets drawings (Figures 3-5)

REMARKS

Claims 1-6, 8, 10, and 12-18, as amended, remain herein. Claims 7, 9 and 11 have been cancelled without prejudice. Claims 1 and 4 have been amended. New claims 15-18 have been added. Support for the amendments and the new claims may be found throughout the specification (see, e.g, original claims 7 and 9; FIG. 2; page 18, lines 3-27; and page 37, lines 5-13 of the specification).

Fig.2



As seen above, Fig. 2 provides support for the claimed affinity level relationship Ad1<Ad2.

Replacement drawings are enclosed with this reply. Figs 3-5 have been amended to moot the objection to the drawings.

Applicants' claim 1 recites an organic electroluminescence element comprising: an anode; a first emitting layer comprising at least a first host material and a first dopant; a second emitting layer comprising at least a second host material and a second dopant; and a cathode, wherein the energy gap $E_{gh}1$ of the first host material, the energy gap $E_{gd}1$ of the first dopant, the

energy gap $E_{gh}2$ of the second host material, and the energy gap $E_{gd}2$ of the second dopant satisfy the following formulas; the luminescent intensity I1 at the maximum luminescent wavelength of an emission spectrum derived from the first emitting layer, and the luminescent intensity I2 at the maximum luminescent wavelength of an emission spectrum derived from the second emitting layer satisfy the following formula; and the affinity level A_d1 of the first dopant and the affinity level A_d2 of the second dopant satisfy the following formula:

$E_{gh}1 > E_{gd}1$ (formula 1)

$E_{gh}2 > E_{gd}2$ (formula 2)

$E_{gd}1 > E_{gd}2$ (formula 3)

$I1 > 3.5 \times I2$ (formula 4)

$A_d1 < A_d2$ (formula 5) . . .

Applicants' claim 4 recites an organic electroluminescence element comprising: an anode; a first emitting layer comprising at least a first host material and a first dopant; a second emitting layer comprising at least a second host material and a second dopant; and a cathode in the order mentioned, wherein the energy gap $E_{gh}1$ of the first host material, the energy gap $E_{gd}1$ of the first dopant, the energy gap $E_{gh}2$ of the second host material, and the energy gap $E_{gd}2$ of the second dopant satisfy the following formulas:

$E_{gh}1 > E_{gd}1$ (formula 1)

$E_{gh}2 > E_{gd}2$ (formula 2)

$E_{gd}1 > E_{gd}2 > 2.7$ eV (formula 6); and

the affinity level A_d1 of the first dopant and the affinity level A_d2 of the second dopant satisfy the following formula:

$A_d1 < A_d2$ (formula 5).

1. Claims 1-14 were rejected under 35 U.S.C. § 112, first paragraph. Claims 1 and 4 have been amended to moot this rejection.

2. Claim 11 was rejected under 35 U.S.C. § 112, second paragraph. Claim 11 has been cancelled thereby mooting this rejection.

3. Claims 1, 5-7 and 10 were rejected under 35 U.S.C. § 102(b) over Hatwar EP 1,187,235. Claim 1 has been amended to incorporate the limitations of claim 9 which was not subject to this rejection. In addition, Hatwar does not satisfy applicants' claimed luminescent intensity relationship. The Office Action states that Hatwar FIG. 8 and Example N show an intensity relationship between the first dopant and the second dopant of at least 3.5. However, Hatwar FIG. 8 shows a relative radiance between the peak in the blue region and the peak in the yellow region of 3 or less. Thus, Hatwar does not disclose all elements of applicants' claim 1. Applicants respectfully request reconsideration and withdrawal of this rejection.

4. Claims 1, 2, 5-7, 9 and 10 were rejected under 35 U.S.C. § 103(a) over Hosokawa et al. JP 2000-068057 as evidenced by Hosokawa et al. US Patent 5,536,949.

Hosokawa says nothing about applicants' claimed energy gap, luminescent intensity, and affinity level relationships (formulae (3) to (5)). Hosokawa is concerned with increasing durability and color stability by including multiple luminous layers (See Hosokawa at paragraph [0015]). Unlike the present invention, Hosokawa does not attempt to minimize light emission

from one light emitting layer and maximize light emission from another. On the other hand, the present application attempts to maximize light emission from the first emission layer and minimize light emission from the second emission layer:

> In order to solve the problems, the present inventors have found out that in an organic EL element having at least two emitting layers, the light emission of the second emitting layer is restrained or the two emitting layers satisfy a given relationship, whereby the color purity and/or durability of the element can be improved.

Applicants' specification at page 6, lines 9-14 (emphasis added here).

> As shown in FIG. 2, in the present invention, an emitting layer is made into a bi-layered structure and the different emitting layers 3 and 4 are doped with the first dopant and the second dopant, respectively, the first emitting layer 3 containing the dopant with a large energy gap mainly emitting light.
>
> In general, when two kinds of dopants are incorporated into a single emitting layer, energy shift is easily caused since the distance between these dopants is small. Usually, therefore, each of the two kinds of dopants emits light or only the dopant having a smaller energy gap emits light. It is very difficult to cause only the dopant having a larger energy gap to emit light.
>
> However, as understood from the conventional art, only by making an emitting layer into a bi-layered structure, both of the first emitting layer 3 and the second emitting layer 4 emit light. Therefore light with a narrow band leading to a high purity of color is not obtained.

Applicants' specification at page 11, line 25 to page 12, line 13 (emphasis added here).

> In this organic EL element, the luminescent intensity I1 at the maximum luminescent wavelength of an emission spectrum derived from the first emitting layer and the luminescent intensity I2 at the maximum luminescent wavelength of an emission spectrum derived from the second emitting layer satisfy the relationship of $I1>3.5 \times I2$. When this relationship is satisfied, narrow band luminescence good in color purity can be obtained. Preferably, $I1>5 \times I2$. More preferably, $I1>10 \times I2$. It is in particular preferred that the luminescent intensity I2 from the second emitting layer is 0.

Applicants' specification at page 15, lines 15-24 (emphasis added here).

> As can be understood from Table 1, the organic EL elements using only a dopant having a large energy gap were good in color purity but had a low luminescent efficiency and a short half life. Conversely, the organic EL elements using only a dopant having a small

> energy gap had a high luminescent efficiency and a long half life but were poor in color purity and unsuitable for full-color usage.
>
> However, the organic EL elements of the present invention had improved durability and luminescent efficiency and had the substantially same color purity as compared with those using only a dopant having a large energy gap. Thus, the organic EL elements of the present invention are very suitable for full color usage.

Applicants' specification at page 81, line 1 to page 82, line 2.

Thus, applicants' claimed energy gap, luminescent intensity, and affinity level relationships are not obvious. Applicants respectfully request reconsideration and withdrawal of this rejection.

5. Claims 1-10 were rejected under 35 U.S.C. § 103(a) over Sakai et al. US Patent 6,224,966.

Sakai says nothing about applicants' formulae (3) to (6). Sakai is concerned with increasing durability and color stability by including multiple luminous layers (See Sakai, Abstract). Unlike the present invention, Sakai does not attempt to minimize light emission from one light emitting layer and maximize light emission from another but to keep carriers at the interface of the two emitting layers (see Sakai Figs 2 and 3).

Sakai says nothing about applicants' luminescent intensity relationship $I1 > 3.5 \times I2$. As discussed above, applicants' luminescent intensity relationship is not obvious and achieves narrow band luminescence and good color purity.

In addition, Sakai says nothing about applicants' energy gap relationship $E_{gd}1 > E_{gd}2 > 2.7$ eV (applicants' formula 6). Sakai FIGS 2 and 3 show either equal or lower energy gap for the first emitting layer compared to the second emitting layer.

Applicants' specification explains that the present invention achieves narrow band emission when $E_{gd}1 > E_{gd}2 > 2.7$ eV is satisfied:

> This organic EL element satisfies the relationship of: $E_{gd}1>E_{gd}2>2.7$ eV. This relationship is satisfied; therefore, even if both of the first and second emitting layers emit light, both of them emit blue light, which is different from the above-mentioned organic EL element. Consequently, blue luminescence high in color purity can be obtained.

Applicants' specification at page 17, lines 7-12.

When applicants' formula 6 is not satisfied, the color purity is lower (compare applicants' Example 1 to Comparative Example 3). Thus, applicants' claimed energy gap relationship is not an inherent property and is not obvious. Applicants respectfully request reconsideration and withdrawal of this rejection.

6. Claims 1-7 and 10-11 were rejected under 35 U.S.C. § 103(a) over Hosokawa et al., *Appl. Phys. Lett.* **67**, 3853-3855 in view of Wakimoto et al. US Patent Application Publication 2001/0052751. Claim 1 has been amended to incorporate the limitations of claim 9 which was not subject to this rejection. Applicants respectfully request reconsideration and withdrawal of this rejection.

7. Claim 8 was rejected under 35 U.S.C. § 103(a) over Hosokawa et al., *Appl. Phys. Lett.* **67**, 3853-3855 in view of Wakimoto '751 as evidenced by Suzuki et al. US Patent 6,750,472, in further view of Wakimoto et al. US Patent Application Publication 2001/0043044. Claim 8 depends from independent claim 1. Claim 1 has been amended to incorporate the limitations of claim 9 which was not subject to this rejection. Applicants respectfully request

reconsideration and withdrawal of this rejection.

8. Claims 12-14 were rejected under 35 U.S.C. § 103(a) over Hosokawa et al. JP 2000-068057 in view of Mishima et al. US Patent Application Publication 2002/0096995. Claims 12-14 depend from independent claim 1. Claim 1 has been amended to incorporate the limitations of claim 9 which was not subject to this rejection. Applicants respectfully request reconsideration and withdrawal of this rejection.

Accordingly, this application is now fully in condition for allowance and a notice to that effect is respectfully requested. The PTO is hereby authorized to charge/credit any fee deficiencies or overpayments to Deposit Account No. 19-4293. If further amendments would place this application in even better condition for issue, the Examiner is invited to call applicants' undersigned attorney at the number listed below.

Respectfully submitted,

STEPTOE & JOHNSON LLP

Date: November 5, 2008

Houda MORAD

Roger W. Parkhurst
Reg. No. 25,177
Houda Morad
Reg. No. 56,742

STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, NW
Washington, DC 20036
Tel: 202-429-3000
Fax: 202-429-3902